

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at Page 3, line 15 with the following paragraph.

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Referring to Fig.1, the architecture according to an example embodiment of the present invention is shown. The user's computer 100 connects via the Internet 102 to a web server 104 that contains a design center home page and other pages of the virtual product designer (VPD) web site through which the user interacts to take advantage of the present invention. The user's computer 100 may be equipped with a browser or other user interface software adapted to present cost and design information to the user. The web server 104 directs the user to the design center home page 106. The home page 106 contains buttons and other interactive controls and forms that provide the user with access to the functional modules that are used in the design process. The detailed data associated with the functional modules is maintained in a relational database 112 running on a ~~Windows NT~~ server 110 (such as a Windows NT® server) that is isolated from the web server 104 by a firewall with tunneling 108. Information from the relational database 112 is extracted from the ~~Windows NT~~ server 110 by the web server 104 on a regular basis to ensure that the functional modules contain accurate and timely information.

Please replace the table at Page 4, line 10 with the following table.

Table 1

| Generic functional module | Specific Examples |
|---------------------------|---|
| Processor | Pentium Pentium® processor, Pentium Pentium® II processor, Pentium Pentium® III processor, Celeron Celeron® processor |
| Cache | 128KB, 256KB |
| Chip Set | TX, BX, 815E |
| Memory (DRAM) | DIMM, embedded |
| Memory (Nonvolatile) | IDE Flash, ISA Flash |
| Graphics | 2MB frame buffer, 4MB frame buffer, flat panel support |
| Expansion Busses | ISA, PCI, AGP, PC/104, PC/104+ |
| Storage Peripherals | EDIE, floppy, SCSI |
| I/O Peripherals | Keyboard, mouse, serial port, parallel port, USB port, touch screen support, sound 10/100Base T Ethernet, SCSI |

Please replace the table at Page 5, line 1 with the following table.

Table 2

| Generic functional module | Attribute | Examples |
|---------------------------|--|--|
| Processor | Generic processor type | Celeron <u>Celeron</u> ® FC processor |
| | System bus speed | 66, 100, 133 MHz |
| | Core voltage | 1.8V |
| | Package | BGA2 |
| Cache | Cache size | 128KB, 256KB |
| Chip Set | System bus speeds supported | 66, 100, 133 MHz |
| | Processors supported (Intel validated) | Celeron <u>Celeron</u> ® FC processor |
| | Busses supported | PCI 32 bits (5), ISA (6), AGP 1X (1) |
| | Peripheral busses supported | EIDE, USB |
| Memory (DRAM) | Memory types supported | SDRAM, RDRAM, EDO |
| | Memory size supported | 1 GB, 4 DIMMs |
| | External cache supported | Yes or No |
| | Memory type | SDRAM, RDRAM, EDO |
| Memory (Nonvolatile) | Memory size | 1 GB, 4 DIMMs |
| | System bus speed | 66, 100, 133 MHz |
| | Nonvolatile memory size | 16 MB |
| | Bus | ISA, EIDE |
| Graphics | Bootable | Yes or No |
| | Bus | PCI, AGP |
| | Frame buffer size | 2 MB, 4MB |
| | Flat panel support | Yes or No |
| Expansion Busses | Form factor required | Motherboard |
| | Bus (loads) | ISA (1), PCI(1), AGP (1) |
| I/O Peripherals | Bus (loads) | ISA (1), PCI(1), AGP (1) |
| All | Power (typical measured) | 5 W |
| | Size (measured) | 2.5 square inches |
| | Panel area (measured) | .85 square inches |

Please replace the paragraph at Page 6, line 18 with the following paragraph.

The following example illustrates the method that can be used to define a unique product requirement. To initiate the design for a custom form factor with, for example, a ~~Pentium~~ Pentium® processor, the user selects a form factor block 122 from the home page shown in Fig. 2. The VPD responds by providing the user with three windows 142, 144, 146 as shown in Fig. 3. The first window is the inquiry window 142 where the user can select the form factor that supports the application requirement. The products feature window 144 lists the functional modules that have been selected by the user. The design feasibility window 146 provides the current feasibility analysis.

Please replace the Page 7, line 18 with the following paragraph.

Referring to the product features window 144 of Fig. 3, after the form factor, the next functional module selected by the user is the processor block. The inquiry window 142 advances and the user is given a list of the standard processors that are currently supported. The user may select, for example, a Pentium. The VPD requests the user to select an operating frequency. By clicking the desired frequency and pressing the enter key, the information is added to the product feature list in the product features window 144 and the design feasibility window 146 is updated. Based on the processor selection, a compatible chip set is the Intel TX chip set, so this selection automatically appears in the product feature list of the product features window 144. The user can change the chip set by clicking the chip set block in the product features list

of the product features window 144. If the user desires to select another chip set that is not compatible with the ~~Pentium~~ processor, the ~~Pentium~~ processor may be deleted from the product features list to obtain a complete list of available chip sets.

Please replace the paragraph at Page 8, line 8 with the following paragraph.

Referring to the product features window 144 of Fig. 3, with the processor and the chip set specified, the user next selects the options from the memory block. The inquiry window 142 advances and the user is given a list of memory options or specifications. If the application requires high reliability, the user may select an on-board memory option with support for 32MB of SDRAM and no cache memory. The application may also require additional non-volatile memory so the user may select the NVRAM option and specify ~~an M-System~~ a M-Systems® flash memory site with no memory installed. The user presses the enter key and the information is entered into the product features list of the product features window 144. The design feasibility window is updated and the inquiry window 142 advances to the graphic controller block. The available graphic controllers are displayed in the inquiry window 142 along with the options associated with each controller. The user may select, for example, the ~~Asilant~~ Asilant™ 69000 graphics controller with the LCD and Video support options. This information is entered and the VPD advances to the peripheral controller requirements.

Please replace the paragraph at Page 15, line 1 with the following paragraph.

Referring to Figs. 5A and 5B, a flowchart of the primary steps for providing a cost quotation and feasibility assessment for a board level product according to an example embodiment of the present invention is shown. As shown in Figs. 5A and 5B, a user is prompted for information regarding the custom product for which a cost quotation and feasibility analysis is to be provided. In many instances, the user may select a response from a list of possible responses. In other cases, the user may be asked to enter specific values in response to a particular question. In the first step 160, the user is provided with options for defining a form factor (by proceeding to step 162), CPU or processor (by proceeding to step 164), chip set (by proceeding to step 166), memory (by proceeding to step 168), peripheral controller (by proceeding to step 230), ~~graphics controller~~, and I/O controller (by proceeding to step 232). If the user chooses not to proceed with defining a particular component at any of the steps 162, 164, 166, 168, 230, 232, he may proceed with defining a component at the subsequent step as shown in the progression of steps 162, 164, 166, 168, 230, and 232. If the user selects a form factor in step 162, the user is next asked in step 170 to specify whether the form factor is custom. If the form factor is custom, the user enters a PCB size in step 172 and a panel size in step 174. If the form factor is not custom, the user selects a form factor from a predefined list of form factors in step 176. The user is prompted for additional criteria in step 178. In step 180, the user is asked to specify whether expansion slots are

required. If yes, in step 182, the user is asked to select expansion slots from a list. If no, the user moves directly to the next step. In step 184, the user is prompted to select for a riser type. If the user chooses to select a riser type, in ~~in~~ step 186, the user may select a riser type from a list. If the user chooses not to select a riser type ~~a riser is not required~~, the user moves directly to step 188 and is asked to select an I/O connector type. If an I/O connector is required, the user may select from a list of I/O connector types in step 190. If an I/O connector type is not required, the user moves directly to step 192 and is prompted for additional criteria (e.g., processor at step 208, chip set at step 224, memory at step 226, graphics controller at step 228, peripheral controller at step 240, or I/O controller at step 246).

Please replace the paragraph at Page 15, line 22 with the following paragraph.

In steps 208, 224, 226, and 228, a determination is made as to whether the user would like to select a CPU or processor, chip set, memory, graphics controller, peripheral controller, or I/O controller. If the user selects a CPU or processor in steps 208 or 164, the user is prompted to select a CPU or processor from a list of processors. First, the user selects a CPU from a list stored in the database 196. The user is prompted for the speed in step 198 and may select from a list of speeds in step 200. In step 202, the user is prompted for a cache type and in step 204 may select from a list of cache types. In step 206, the user may be prompted for additional criteria. If the user selects a chip set in steps 224 or 166, the user is prompted to select a chip set from a list of chip sets in step

210 and is prompted for additional criteria in step 212. If the user selects memory in steps 226 or 168, the user is prompted in step 214 to select a type of memory from a list of memory types. The user may be prompted for additional criteria relevant to the memory selection. For example, the user may be prompted for a memory size as in step 216 which may be selected from a list as in step 218. In step 220, the user proceeds with specifying criteria relevant to the product.

Please replace the paragraph at Page 16, line 13 with the following paragraph.

If the user selects a graphics controller in step 228, the user is prompted in step 236 to select a graphics controller from a list of graphics controllers. In step 238, the user proceeds with specifying additional criteria relevant to the product. If the user chooses not to select a graphics controller in step 228, the user proceeds to step 240 where he has the option of selecting a peripheral controller. If the user selects a peripheral controller in steps 230 or 240, the user is prompted in step 242 to select a peripheral controller from a list of peripheral controllers. The user proceeds with specifying additional criteria relevant to the product in step 244. If the user chooses not to select a peripheral controller in step 230, the user proceeds to step 232 where he has the option of selecting an I/O controller. If the user chooses not to select a peripheral controller at step 240, the user proceeds to step 246 where he has the option of selecting an I/O controller. If the user selects an I/O controller in steps 246 or 232, in step 248, the user is prompted to select an I/O controller from a list of I/O controllers. The

user is prompted in step 250 to specify whether serial ports are required. If yes, the user is prompted in steps 264 through 270 to indicate the number of RS-232C and RS-422C ports to be accommodated. First, the user indicates whether RS-232C serial ports are required 264. If yes, the user enters the number of ports 266. If no, the user proceeds to step 268. At 268, the user indicates whether RS-422C serial ports are required. If yes, the user enters the number of ports 270. If no, the user proceeds directly to step 258 where he indicates whether additional I/O is required.

Please replace the paragraph at Page 16, line 22 with the following paragraph.

If the user does not select any serial ports at step 250 ~~no~~, the user proceeds to step 256 and is prompted in step 256 to specify whether USB ports are required. If yes, the user specifies the number of ports in step 262. If no, the user moves directly to the step 258 and specifies whether there are additional I/O requirements to accommodate. If yes, the user returns to step 248 and selects another I/O controller. If there are no additional I/O requirements, the user proceeds to step 260.

Please replace the paragraph at Page 17, line 2 with the following paragraph.

In step 260, the user indicates whether the design is complete. If not, the user can return to earlier steps to complete the process of providing the specifications for the product. Specifically, the user returns to step 194 where he has the option of selecting a form factor. If the user proceeds with selecting a

form factor, he returns to step 170 and proceeds through the steps for specifying a form factor. If the user does not proceed with selecting a form factor, he proceeds to step 208 where he has the option of selecting a processor. If the user proceeds with selecting a processor, he returns to step 196 and proceeds through the steps for specifying a processor. If the user does not proceed with selecting a processor, he proceeds to step 224 where he has the option of selecting a chip set. If the user proceeds with selecting a chip set, he returns to step 210 and proceeds through the steps for specifying a chip set. If the user does not proceed with selecting a chip set, he proceeds to step 226 where he has the option of selecting memory. If the user proceeds with selecting memory, he returns to step 214 and proceeds with the steps for specifying memory. If the user does not proceed with selecting memory, he proceeds to step 228 where he has the option of selecting a graphics controller. If the user proceeds with selecting a graphics controller, he returns to step 236 and proceeds with the steps for specifying a graphics controller. If the user does not proceed with selecting a graphics controller, he proceeds to step 240 where he has the option of selecting a peripheral controller. If the user proceeds with selecting a peripheral controller, he returns to step 242 and proceeds with the steps for specifying a peripheral controller. If the user does not proceed with selecting a peripheral controller, he proceeds to step 246 where he has the option of selecting an I/O controller. If the user proceeds with selecting an I/O controller, he returns to step 248 and proceeds with the steps for specifying an I/O

controller. If the user does not proceed with selecting an I/O controller, he proceeds to step 260.

Please replace the paragraph at Page 17, line 4 with the following paragraph.

As indicated previously, in step 260, the user indicates whether the design is complete. If not, the user can return to earlier steps to complete the process of providing the specifications for the product. If the design is complete, the user proceeds to step 272. In ~~in~~ step 272, the results for the specified product are generated. The results include a cost quotation and design feasibility assessment. The user may return to the start of the process as many times as desired to obtain results for additional products. By requesting more than one quotation and assessment, the user may evaluate the tradeoffs associated with several different design choices and product configurations.